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**COCKPIT/CREW RESOURCE
MANAGEMENT TRAINING PROGRAM**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFD 11-2, *Aircraft Rules and Procedures*. It establishes the USAF aircrew training program that supports Air Force objectives and is applicable to all units assigned to or gained by major commands (MAJCOMs) and applies to commanders, operations supervisors, and aircrews assigned or attached to all flying activities of these commands. Lead commands will publish guidance in the specific mission design series (MDS), 11-2 MDS specific vol. 1 and vol. 2, regarding CRM requirements, currency, tracking, and evaluation. If MAJCOMs publish supplements to AFI 11-290, the supplements will define implementation of CRM program, but may not be less restrictive. MAJCOMs will coordinate their supplements with HQ USAF/XOOT. This instruction establishes requirements for developing and managing tailored, mission-specific Cockpit/Crew Resource Management (CRM) training programs and requires CRM training for all Air Force aircrew members. MAJCOMs, field operating agencies (FOAs) and HQ USAF direct reporting units (DRUs) are responsible for establishing and managing their respective programs in accordance with this instruction. CRM programs are mandatory for aircrew members and historically have been geared toward the operational flying environment, the potential exists to adapt fundamental program principles to any task or functional area requiring cooperative or interactive time critical efforts. **Attachment 1** provides a glossary of

references, acronyms, and terms used in this instruction. AF Form 4031, **CRM Skill Criteria Training/Evaluation Form** lists specific CRM skills which measure the effectiveness of CRM training.

Submit suggested improvements to this instruction on AF Form 847, **Recommendation for Change of Publication**, through training channels, to HQ/USAF/XOOT, 1480 Air Force Pentagon, Washington, DC 20330-1480. This is a new instruction replacing AFI 36-2243, Cockpit/Crew Resource Management Program. Requests for waivers to this instruction should be directed to **Chief Operations Training Division, HQ AF/XOOT, 1480 Air Force Pentagon Washington, DC 20332-1480, DSN 227-7706, Commercial (202) 697-7706, FAX DSN 225-1489, FAX Commercial (202) 695-1489**. MAJCOMs should accept another MAJCOM or Department of Defense (DoD) training only if: it meets the intent of this instruction, a source document is provided, and MAJCOM determines training is equivalent. This publication applies to the Air National Guard (ANG) when published in the ANGIND 2.

(ACC) AFI 11-290, 11 April 2001 is supplemented as follows. This supplement provides additional information for the ACC Cockpit/Crew Resource Management (CRM) Program. This supplement does not apply to Air National Guard (ANG) and Air Force Reserve Command (AFRC) units and members. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at <https://www.my.af.mil/gess-af61a/afirms/afirms/>. Contact supporting records managers as required. Send comments and suggested improvements to this supplement on AF Form 847, *Recommendation for Change of Publication*, through channels, to ACC TRSS/ACQ, 205 Dodd Blvd, Suite 101, Langley AFB VA 23665-2789.

SUMMARY OF CHANGES

This revision incorporates IC 2001-1 and replaces the term *discipline* with *flight discipline* in paragraph **6.1.4**. This revision also provides a definition for *flight discipline* in the Terms section in **Attachment 1**. The entire text of IC 2001-1 is at **Attachment 2**. Changed or revised material is indicated by a bar (|).

(ACC) This change primarily updates Air Force terms and organizational changes (i.e. Unmanned Aerial Vehicle is now Remotely Piloted Aircraft). It provides clarification in the role that Wing Aerospace and Operational Physiologists can participate in the unit CRM program. Other paragraphs were changed for clarity or as requested by units or other ACC agencies.

Section A—CRM Program Description	3
1.	3
1. (ACC) At its simplest, CRM is "things aircrews do.	3
2. Program Requirements.	4
Section B—Program Management	5

3.	Top-Level Direction.	5
3.	(ACC) Top-Level Direction.	5
4.	USAF CRM Working Group.	6
5.	MAJCOM CRM Programs.	6
Section C—Program Development		9
6.	Core CRM Curriculum	10
7.	Supporting Information.	10
8.	CRM Training Phases.	10
8.	(ACC) CRM Training Phases.	11
Table 8.1.	(Added-ACC) Aircrew Grade Sheet Requirements	11
Table 8.2.	(Added-ACC) Instructor Brief/Debrief Guide	12
9.	Data Disposition Schedule.	16
10.	Forms Prescribed:	16
Attachment 1—GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION		20
Attachment 1—(ACC) GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION		20
Attachment 2—IC 2001-1 TO AFI 11-290, COCKPIT/ CREW RESOURCE MANAGEMENT TRAINING PROGRAM		21

Section A—CRM Program Description

1. The Air Force CRM program provides crewmembers with performance-enhancing knowledge and skills directly applicable to their roles in the aerospace mission of the Air Force. CRM training is a key component of a combined effort to identify and manage the conditions that lead to error. The CRM program begins with crewmembers' initial Air Force flying training and is continuously built upon throughout their operational careers. Training objectives will be tailored to the knowledge and skill level of the aircrew member. As the aircrew member becomes more proficient, CRM training should emphasize performance skills more than academic objectives. Lead commands define "crewmember" in terms of their own operational mission requirements.

1. (ACC)At its simplest, CRM is "things aircrews do. " Successful CRM training is designed to enable crews to manage resources and tasks and to improve mission performance. Quality skill practice and training leading to maximum operational effectiveness and combat capability is the central theme of ACC's CRM training program. Five different CRM courses (outlined in paragraph 8 of AFI 11-290, as supplemented) are the keystones of an integrated program that provides operationally oriented repetitive practice in the use of CRM skills. Each course is built around a CRM skill practice opportunity that motivates the combat crewmember to use a core CRM curriculum skill and provides feedback on the use of that skill.

1.1. The CRM program goals are:

1.1.1. Maximize operational effectiveness and combat capability.

1.1.2. Preserve Air Force personnel and material resources.

1.2. CRM training will be designed and managed to accomplish the following objectives:

1.2.1. Develop aircrew skills in recognizing and responding to the conditions that lead to aircrew error.

1.2.2. Develop aircrew proficiency in CRM skills.

2. Program Requirements.

2.1. Lead Command guidance will:

2.1. (ACC) HQ ACC Guidance:

2.1.1. Establish training frequency, required attendees, and method for tracking crewmember currencies.

2.1.1. (ACC) ACC aircrews, mission crewmembers, Remotely Piloted Aircraft crewmembers and aircrew training contract instructor personnel are required to take CRM continuation training (CT) every 2 years (biennial). CT training will be required by the end of the month, 2 years after receiving previous CRM training. Aircrews taking the instructor CRM course will receive credit for CT training requirements.

2.1.1.1. (Added-ACC) ACC aircrews are identified as any pilot, navigator, weapon system officer, flight surgeon, career enlisted aviators, and mission crew officer and enlisted specialist assigned to ACC and assigned flight duties on an ACC weapon system. This includes all staff MAJCOM, numbered AF, and wing aircrew members who fly as part of their official duties.

2.1.1.2. (Added-ACC) CRM training will be tracked via the Aviation Resource Management System (ARMS). Aircrew members who do not accomplish CRM training within a 2-year period will be grounded from flying duties until training is accomplished or a waiver is granted for the training. Waivers to CRM training will be at the operations group commander level.

2.1.1.3. (Added-ACC) Operations group standardization/evaluation (STAN/EVAL) and/or training offices will determine if new aircrew member's previous CRM training fulfills ACC CRM training requirements. Aircrews must present documentation of completed CRM training (by ARMS for example) to wing STAN/EVAL and/or training for approval. Aircrews and crewmembers can substitute CRM training received from other MAJCOMs as meeting their biennial ACC CRM training requirement.

2.1.1.4. (Added-ACC) Aircrews that receive CRM training from other MAJCOMs (EC-130H and E-4 aircrews for example) during simulator refresher training meet their biennial CRM training requirement. In the event that simulator CRM training is not available, flight deck crew members may attend their respective unit's mission crew CRM class.

2.1.1.5. **(Added-ACC)** Unit instructors and evaluators must document CRM performance during all simulator and flight training and evaluation missions (i.e. local grade sheets and Form 8s). Any CRM trends that have been identified by units (either positive or negative) should be documented and reported to ACC TRSS/ACQ to be incorporated into future CRM training.

2.1.2. Use CRM skills criteria, AF Form 4031, to establish the skills training/evaluation criteria.

2.2. Each MAJCOM, FOA and DRU CRM training program must:

2.2.1. Provide training to develop and improve CRM knowledge and skills based on paragraph 6 and AF Form 4031.

2.2.2. Be updated annually to incorporate: "real-world" operational experiences, mishap data, research data, critiques, and flight evaluation trends.

2.2.3. Identify the process for gathering, analyzing and incorporating trend data from MAJCOMs into existing training and evaluation programs.

2.2.4. MAJCOM, FOA and DRU CRM managers will insure continuity of course content with AETC's introductory courses.

2.3. CRM skills will:

2.3.1. Be integrated into flight briefings and debriefings.

2.3.2. Be integrated into training syllabi.

2.3.3. Be evaluated during initial qualification and recurring evaluations.

2.3.4. **(Added-ACC)** ACC's CRM training program will be data driven, skills-based, and operationally integrated to improve the daily mission performance of ACC combat crewmembers. Data sources should include USAF Safety Center data, local standardization and evaluation reports, mission reports, training summaries and grade sheet analysis.

Section B—Program Management

3. Top-Level Direction. Operational control of the content and delivery of Air Force CRM programs will rest within the MAJCOM, FOA and DRU operations directorates. MAJCOM, FOA and DRU safety and surgeon general directorates will act as advisors and respective subject matter experts to the MAJCOM, FOA and DRU operations directorates for providing input to course content and delivery. The USAF CRM Steering Committee standardizes CRM program requirements, terminology, and core syllabus. Each functional area using the CRM training concept must be represented on the USAF CRM Steering Committee. The committee will meet annually.

3. (ACC)Top-Level Direction. Operational control of ACC's CRM program will rest in ACC Training Support Squadron (ACC TRSS). Command policy and guidance related to CRM content and delivery will rest within HQ ACC/A3 staff operational directorates (A3I, A3T, and A3Y).

3.1. Steering Committee Membership:

- 3.1.1. HQ USAF director of operations training (XOOT Chair).
- 3.1.2. HQ AETC/DOF.
- 3.1.3. HQ ACC/DOT.
- 3.1.4. HQ AMC/DOT.
- 3.1.5. HQ AFSOC/DOT.
- 3.1.6. HQ PACAF/DOT.
- 3.1.7. HQ USAFE/DOT.
- 3.1.8. ANG/XOO.
- 3.1.9. HQ AFRC/DOT.
- 3.1.10. HQ AFMC/DOV.
- 3.1.11. HQ AFSPC/DOO.
- 3.1.12. Air Force Academy Operations Support Squadron (34 OSS).
- 3.1.13. War Fighter Training Research Division Armstrong Labs (AFRL/HEA) (advisor).
- 3.1.14. HQ AFSC/SEF (advisor).
- 3.1.15. Air Force Aerospace Physiology (AFMOA/SGOO) (advisor).
- 3.1.16. Other technical advisors as required.

4. USAF CRM Working Group.

4.1. Action officers representing each of the members of the Steering Committee constitute the USAF CRM Working Group. The working group reviews program execution and policy issues and will meet as required. Mandatory topics will include Training Continuum, Standardization, and Research and Development needs. Working group members are:

- 4.1.1. HQ USAF/XOOT CRM Program Manager (Chair).
- 4.1.2. MAJCOM, FOA and DRU CRM program managers.
- 4.1.3. MAJCOM CRM advisors (SE, SG, etc.--maximum two per MAJCOM).
- 4.1.4. HQ AFSC/SEFF and SEPA representatives (technical advisors).
- 4.1.5. HQ AFFSA/XOFD representative (technical advisor).
- 4.1.6. AFMOA/SGOO (technical advisor).
- 4.1.7. AFRL/HE (technical advisor)
- 4.1.8. Other technical advisors as required.

5. MAJCOM CRM Programs. Individual MAJCOMs, FOAs and DRUs manage their programs as follows:

5.1. **CRM Program Manager.** Each MAJCOM, FOA and DRU will appoint a CRM program manager within their operations or equivalent directorate. This individual should be a rated officer whose primary duty should be the management of their MAJCOM's

respective CRM training program. CRM program managers should attend CRM industry conferences to keep abreast of current CRM technology and practices. The program manager is responsible for:

5.1. **(ACC)** ACC program manager resides in ACC TRSS/ACQ, DSN 574-4280, comm. 757-764-4280.

5.1.1. Ensuring Lead Command's AFI 11-2 MDS specific vol. 1 and vol. 2s provide CRM policy guidance.

5.1.2. Implementing Lead Command CRM policy guidance.

5.1.3. Ensuring each applicable CRM training phase (paragraph 8) is implemented and evaluated.

5.1.4. The forwarding of AF Form 4031, trend data to CRM Instructors/Facilitators.

5.1.5. Ensuring a system is in place to collect performance data (i.e. Stan/Eval trends (Skills criteria), mishap reports and HATRs, and Inspector General reports) and send to CRM instructors and facilitators.

5.1.6. Evaluating contractor implementation of CRM program objectives. Where discrepancies are identified, initiate corrective actions.

5.1.7. Ensuring Quality Assurance Representatives (QARs) and IGs have current evaluation guidance to evaluate CRM program objectives. Where discrepancies are identified, initiate corrective actions.

5.1.8. Providing feedback to CRM Working Group regarding program status covering: Training Continuum, Standardization, and Research and Development needs.

5.1.9. Interacting with MAJCOM, FOA or DRU CRM advisors (Safety, Aerospace Physiology, etc.) ensuring CRM training is effective and minimizes redundancies with other programs given by Safety, Aerospace Physiology, etc.

5.1.10. **(Added-ACC)** Specific responsibilities within ACC are:

5.1.10.1. **(Added-ACC) ACC TRSS/ACQ.** ACC TRSS/ACQ is responsible for managing CRM training contract to include courseware approval and implementation. ACC TRSS/ACQ is responsible for overseeing contractor development of CRM program courseware and continuation training programs to meet the requirements of AFI 11-290, AFI 11-2 Mission Design Series (MDS)-Specific V1s and V2s, and associated lead MAJCOM supplements. ACC CRM program manager is also the CRM contract chief Quality Assurance Personnel (QAP).

5.1.10.2. **(Added-ACC) HQ ACC/A3 Functional Managers.** HQ ACC/A3 functional managers and TRSS Detachments are responsible for assisting in CRM courseware review as required. HQ ACC/A3I, A3T, A3Y, and ACC/SGPT may be required to provide points of contact responsible for interfacing with the ACC program manager on matters related to command policy and guidance.

5.1.10.3. **(Added-ACC) HQ ACC/SEF.** HQ ACC/SEF is the focal point for providing mishap information to CRM contractor personnel for case study and courseware development. ACC/SEF will work with ACC TRSS, the Air Force Safety

Center (AFSC), and CRM contractor personnel in determining case studies to be developed for CRM courses and case studies. Upon request, HQ ACC/SEF will provide sanitized aircraft mishap information to include USAF produced mishap animations as well as controlled access to Air Force Safety Automated System (AFSAS) for CRM contractor personnel IAW AFI 91-204, *Safety Investigations and Reports*.

5.1.10.4. **(Added-ACC) Operations Groups.** Operations group commanders (OG/CC) will appoint an office within the group responsible for their units' CRM program. This office must have experienced aircrew member(s) in a primary weapon system of their wing/unit.

5.1.10.4.1. **(Added-ACC)** The assigned office is responsible to the chief QAP/program manager assigned to ACC TRSS/ACQ, Langley AFB VA, concerning matters related to CRM training.

5.1.10.4.2. **(Added-ACC)** The assigned office will ensure contractor conducts training and will report all discrepancies to the chief QAP immediately.

5.1.10.4.3. **(Added-ACC)** The assigned office will provide oversight to the unit's CRM program to include updating the OG/CC on CRM feedback and command policy and guidance.

5.1.10.4.4. **(Added-ACC)** The assigned office will assist contractor personnel in research of STAN/EVAL trends. CRM contractors can be granted access to Standardization and Evaluations Boards (SEB) at unit discretion. CRM contractor personnel will be included in the distribution of meeting minutes from all SEBs.

5.1.10.4.5. **(Added-ACC)** ACC TRSS/ACQ will visit ACC locations where CRM training is conducted as required. The purpose of the visits is to inspect contract performance and to meet with unit CRM representatives as required.

5.1.10.5. **(Added-ACC)** Standardization Evaluation. CRM skill evaluation criteria will be included in AFI 11-2 MDS-Specific V2s.

5.1.10.6. **(Added-ACC)** At OG/CC discretion and with approval by the MDG/CC, Wing Aerospace and Operational Physiologists (AOPs) can assist the assigned office with the training requirements for the local CRM program. AOPs may provide the local office with the following:

- a. Conduct of quarterly/monthly unit and wing level CRM training during safety briefings or special topics presentations.
- b. Employment of aero medical safety expertise to formulate trends and identify performance deficiencies obtained from flight safety information applicable to CRM academics and briefings.

5.1.10.7. **(Added-ACC) CRM Class Sizes.** CRM continuation training (CT) class sizes will have at least 8 aircrew members but no more than 20. CRM CT classes that do not have the minimum required number of participants may be cancelled. Unit schedulers must notify the contractor of any scheduling changes at least 48 hours in advance. CRM formal training unit (FTU) and instructor class sizes should normally

be at least 8 aircrew members but no more than 20. Exceptions will be made for smaller FTU and instructor classes.

5.1.10.8. **(Added-ACC) Flying Squadrons.** Flying squadron commanders will appoint a CRM representative to oversee the squadron CRM program and advise the commander as required. The representative will monitor and encourage participation in Unit Quarterly Training (paragraphs 8.3.2.1 and 8.3.2.1.1), Individual Quarterly Training (paragraphs 8.3.2.1.2) and Daily CRM Training Objectives (paragraphs 8.3.2.2). The representative will periodically examine mission grade sheets to determine positive/negative trends in unit application of CRM skills. Each squadron CRM representative will also coordinate with the OG/CC CRM representative in all aspects of the unit CRM program.

5.2. **Command Steering Committees .** MAJCOMs, FOAs and DRUs may establish command steering committees to identify the most effective methods for delivering and administering CRM programs. Command steering committees identify the means and resources for effectively managing the CRM program. The MAJCOM, FOA or DRU commander for operations determines the appropriate Chair for their Steering Committee. These Steering Committees develop consolidated command positions on issues presented before the USAF CRM Steering Committee. Each MAJCOM, FOA and DRU CRM Steering Committee should include:

5.2. **(ACC)** ACC Command Steering Committee, chaired by HQ ACC CRM Program Manager (ACC TRSS/ACQ), will meet as required.

5.2.1. Safety and aerospace medicine functional managers.

5.2.2. Representatives of other functions as required (i.e., IN, LG, Operations, etc.).

5.2.3. **(Added-ACC)** Mandatory members are representatives from HQ ACC/A3T (STAN/EVAL and Operations), A3Y, A3I, SGPT, SEF and ACC TRSS (to include ACC TRSS Human Factors/Flight Physiologist representative).

5.2.4. **(Added-ACC)** Specific responsibilities of the ACC CRM Steering Committee include:

5.2.4.1. **(Added-ACC)** Review CRM program reviews and critiques (OPR: ACC TRSS/ACQ).

5.2.4.2. **(Added-ACC)** Review syllabi for CRM compliance (OPR: ACC TRSS/ACQ).

5.2.4.3. **(Added-ACC)** Review mishap report information of significance for CRM case study development (OPR: HQ ACC/SEF).

5.2.4.4. **(Added-ACC)** Review STAN/EVAL CRM trends (OPR: HQ ACC/A3I, A3T, A3Y).

5.2.4.5. **(Added-ACC)** Recommend improvements for CRM program (OPR: All).

Section C—Program Development

6. Core CRM Curriculum . CRM knowledge and skill objectives will be tailored to fit the unique characteristics of each primary mission. Navy Aircrew Coordination Training (ACT) equivalent terms are in parenthesis.

6.1. Managing Core Curriculum. CRM will be integrated into existing training programs to the maximum extent possible.

6.1.1. **Situational Awareness. (Situational Awareness)** Includes knowledge and skill objectives for preventing the loss of situational awareness, skills for recognizing the loss of situational awareness, and techniques for recovering from the loss of situational awareness.

6.1.2. **Crew Coordination/Flight Integrity. (Leadership and Assertiveness)** Knowledge and skill objectives covering the impact on aircrew performance of command authority, leadership, responsibility, assertiveness, conflict resolution, hazardous attitudes, behavioral styles, legitimate avenues of dissent, and team-building.

6.1.3. **Communication. (Communication)** Includes knowledge of common errors, cultural influences, and barriers (rank, age, experience and position). Skills will encompass listening, feedback, precision and efficiency of communication with all members and agencies (i.e., Crewmembers, Wingmen, Weather, ATC, Intelligence, etc.).

6.1.4. **Risk Management/Decision Making. (Decision Making)** Includes risk assessment, the risk management process, tools, breakdowns in judgment and *flight* discipline, problem-solving, evaluation of hazards, and control measures.

6.1.5. **Task Management (Adaptability/Flexibility).** Includes establishing priorities, overload, underload, complacency, management of automation, available resources, checklist discipline, and standard operating procedures.

6.1.6. **Mission Planning/Debrief (Mission Analysis).** Includes pre-mission analysis and planning, briefing, ongoing mission evaluation, and post mission debrief. Also, specific tools and techniques to be used in operational and training missions.

7. Supporting Information. HQ AFSC, MAJCOM, FOA, and DRU safety staffs will screen mishap reports for human performance errors. This safety information should be available for use at all phases of CRM training, either as part of simulator scenarios or for CRM case studies. The safety mishap report information must be sanitized according to AFI 91-204, *Safety Investigations and Reports*. Current safety mishap “For Official Use Only” and sanitized “Limited Use” information will be provided to CRM program managers in a timely manner by command/unit safety staff(s) according to AFI 91-204. The safety mishap report information provided may be retained as part of the CRM training program active files until the training value is exhausted. The safety information will then be destroyed or returned to the safety staff that provided it.

8. CRM Training Phases. Five phases follow crewmembers through their professional development. MAJCOM, FOA, and DRU participation in course development is essential to training effectiveness and smooth transition from one phase to the next. Each phase of training should prepare individuals to apply the knowledge and skills acquired in their specialty and motivate participants for the next phase of training. This training should utilize the most effective

training methods and avoid simply lecturing to students. Video feedback should be used for debriefing. If video recordings or other feedback tools are used, they will be immediately destroyed or erased upon completion of the feedback session to encourage honest student inputs in a non-threatening learning environment. Integrate skills identified in AF Form 4031.

8. (ACC)CRM Training Phases. ACC CRM training curriculum is designed to build upon CRM training learned at the AETC Undergraduate Pilot Training/Undergraduate Navigator Training (UPT/UNT) and FTU levels.

8.1. Introductory or Awareness Training. This may be a crewmember's first exposure to CRM. It is normally conducted in a formal training environment by AETC. Trainees learn standard CRM terminology and core concepts. Lesson plans will include a description of the building block approach to CRM training the individual will participate in throughout their operational career.

Table 8.1. (Added-ACC) Aircrew Grade Sheet Requirements

ITEM	Grade Sheet	CRM Grading Items
1	Flight And Simulator	Mission Planning Situational Awareness, Communications, Risk Management/Decision Making, Task Management, Debrief
2	Formation or tactical employment	Flight Integrity
3	Crew Aircraft	Crew Coordination

8.1. (ACC) Flight and Simulator Grade Sheets. Aircrew flight and simulator grade sheets will contain CRM grading items as specified in Table 8-1 below. Instructors may use the CRM skill behaviors listed in Table 8-2 as a debriefing guide.

8.2. Formal Training Unit (FTU)/Combat Crew Training School (CCTS) CRM Training. Students learn to apply knowledge and skills related to their assigned aircraft. Academic training is complemented during aircraft/simulator training. Emphasis should be placed on preflight planning, briefing, in-flight utilization, and debrief techniques for CRM. This should include a brief review of CRM core concepts paragraph 6.1. Mission Oriented Simulator Training (MOST) sessions or other simulated or actual operational scenarios may be used as an integral part of CRM training. Evaluate students for technical expertise, as well as the skills based on the six core concepts. If aircrew training devices are not available, students should participate in group problem-solving exercises.

8.2. (ACC) The purpose of FTU training is to build a solid foundation of CRM principles and set the stage for CT and Web/LAN-based training that will permeate day-to-day operations and flight briefings. The FTU CRM courses will form the bedrock upon which all subsequent MDS CRM training is based and will advance the Air Force philosophy of career-spanning training in the critical area of Human Factors/CRM skills. All aircrews and crewmembers attending an ACC FTU will take the ACC FTU CRM course in their respective MDS aircraft. This includes students transitioning to dissimilar aircraft. Aircrews cannot substitute CRM training received between dissimilar aircraft (i.e., single vs.

multicrew; heavy vs. fighter aircraft). Aircraft Transition CRM courses should leverage CRM knowledge gained in other aircraft and focus on the unique CRM requirements for the new aircraft. CRM training is to be included in all FTU training syllabi. The 4-hour FTU course can be set up in one of the following ways (as outlined in each MDS syllabi): one 4-hour block; two, 2-hour blocks; or three separate blocks of instruction at 2 hours, 1 hour, and 1 hour.

8.2.1. (Added-ACC) FTU CRM Training (Basic). This training is intended for all ACC aircrew members attending an ACC FTU or initial qualifications training course. The FTU course is designed for the recent graduate of UPT/UNT, Basic Flight Engineer School, Undergraduate Air Battle Manager training, and Enlisted Aircrew Undergraduate Course and is a one-time only training requirement. The six core CRM curriculum skills will be introduced through the use of mission relevant scenarios and interactive group exercises. The training will be designed to convey the learning objectives as flight essential skills that contribute to and enhance mission effectiveness and flight safety. Aircrew members will be taught specific skills to be used during pre-flight planning, briefing, in-flight utilization, and debrief techniques. Improved mission effectiveness remains the primary goal.

8.2.2. (Added-ACC) FTU CRM Training (Advanced). This course is designed for the fighter second tour crewmember with previous experience in the assigned MDS aircraft or fighter experienced air crew transitioning to another fighter aircraft. The courseware acknowledges the aircrew member's experience while refreshing his/her skills in all core CRM curriculum skills. Fighter transition CRM courses should take the current CRM Fighter Continuation training class with additional emphasis on the unique CRM aspects of the new aircraft. For non-fighter weapon systems, second tour aircrews should take CRM Continuation Training versus FTU CRM training.

Table 8.2. (Added-ACC) Instructor Brief/Debrief Guide

ITEM	CRM Skill	Positive Factors	Negative Factors
1	Mission Planning Brief	Organized, clearly assesses and defines mission, environment, aircraft, and situation; covers contingencies; checks understanding.	Neglects, rushed, incomplete, vague, ignores.
2	Situational Awareness	Anticipates, monitors, prevents loss recognizes own/other loss, regains.	Disorientated, confused, lost, fixated.
3	Crew Coordination/ Flight Integrity	Leads, identifies roles and expectations, sets tone, respects, encourages, assertive.	Judges, ridicules, overreacts, ignores, imposes, accepts error.
4	Communication	Clear, concise, listens, interprets, efficient, gets or gives constructive feedback.	Interrupts, withholds, discounts, ambiguous, mumbles.
5	Task	Prioritizes, assigns tasks, creates time, plans, delegates, checklist	Rushed, overloaded, complacent,

	Management	discipline, systems knowledge.	misprioritizes.
6	Risk Management/ Decision Making	Identifies and assesses problems, explores solutions, makes appropriate decisions, involves and informs flight members/crew.	Avoids, delays, vacillates, argues, fails to consider consequences of decision.
7	Debrief	Objective, thorough feedback, non-threatening, recaps key points, solicits inputs, provided corrective actions.	Rushed, incomplete, vague, blames, ignores.

8.3. Mission-Specific Continuation Training. MAJCOMs, FOAs and DRUs are responsible for CRM continuation training. This training will reinforce the aircrew's CRM academic knowledge and refocus on skills to accomplish the mission. It also helps aircrews identify and respond to the conditions that lead to error.

8.3. (ACC) Continuation Training (CT). ACC aircrew members will receive MDS-specific CT at least once every 2 years. These courses will build on FTU training and will emphasize skills needed for specific weapons systems and mission requirements. The course begins with an overview of the six core CRM skills and the associated observable behaviors that apply to the MDS. Data will be collected to determine which of the observable behaviors within the six core CRM curriculum skills most apply to the unit MDS and its mission. Following the overview, two of the six core skills will be covered in depth. Each skill will be trained using the information, demonstration, practice, and feedback instructional strategies. Skill practice opportunities will include MDS and mission-specific exercises, case studies, group interaction and skill assessment techniques. Realistic exercise and practice scenarios, designed to require specific actions by the student, will be based on the most current incidents and combat or operational case studies available for that MDS. These exercises are used by the student to practice the effective use of CRM skills and by the instructors to validate and assess the crewmember's understanding of the skill.

8.3.1. Emphasize CRM skills in the mission qualification and continuation training programs so they become inseparable parts of operational practices.

8.3.2. Frequency for recurring CRM continuation training is defined in AFI 11-2 MDS specific vol. 1s. Lead commands are responsible for providing guidance to standardize CRM MDS specific training policy and requirements. All aircrew require Mission-Specific Continuation Training. Separating training by crew position should be avoided. However, it is not mandatory to conduct this training with a complete aircrew.

8.3.2.1. (Added-ACC) Additional CRM Training Opportunities. CRM practice opportunities will be provided through Web/LAN-based presentations developed for aircrew member use to avoid skill degradation. Aircrew members can use these presentations during unit training days, safety days, or any type of squadron meeting where CRM would be a useful topic of discussion. The Web/LAN training can be conducted in a group setting or individually. Presentations will include all materials required to present the topic of interest. A different CRM skill will be emphasized each quarter. Quarterly training is not mandatory but is highly encouraged to

augment the biennial CRM continuation training. Wing level AOPs can also utilize and are encouraged to utilize these presentations during wing/squadron/unit training sessions and during quarterly/annual safety meetings. Additional CRM training is located at www.cti-crm.com/caf.

8.3.2.1.1. **(Added-ACC) Unit Quarterly Training.** Unit level presentations will be designed for flight or squadron-wide training. This training is intended for use during flight meetings, safety meetings, IP/flight lead/mission commander meetings, or any other appropriate unit activity. Downloaded from the Internet or local base LAN, each module contains approximately 5 minutes of academics and 10 minutes of CRM skills practice using group exercise and/or case study evaluation. Each downloadable file will contain all of the training materials required to conduct the training, including an instructor guide. It will be designed to be compatible with unit audio/visual training devices. Additional CRM training is located at www.cti-crm.com/caf.

8.3.2.1.2. **(Added-ACC) Individual Quarterly Training.** To provide opportunity for training in all six CRM skills and to provide flexibility to high operations tempo units, an individual 15-minute Web/LAN-based interactive computer aided instruction module will be provided. These modules will be based on the unit quarterly training and are designed for individuals who could not attend the unit level course. The module substitutes interactive courseware for group exercises to ensure maximum training and participation for the user. Additionally, web-based interactive animate case studies are available to reinforce CRM skills. These 5 minute animations are based around of the six skills and are MDS specific. Individual CRM training is located at www.cti-crm.com/caf.

8.3.2.2. **(Added-ACC) Daily (CRM) Training Objectives.** Daily (or as scheduled to fly) CRM practice will be provided through the use of a short training scenario titled, Daily Training Objectives (DTO). The DTO will provide a short (2-3 minutes) scenario which demonstrates the effective or ineffective use of a specific CRM behavior particular to a specific MDS. This will be followed by a "what if" or "what would you do" question. Each DTO provides a specific CRM mission objective for that flight, to be discussed in the briefing or debriefing and provides a daily standard against which combat crewmembers can compare mission performance. Aircrew members may use the DTO in conjunction with a flying/simulator mission or may review the topic on an individual basis. Use of DTO's is not mandatory but highly encouraged.

8.3.2.3. **(Added-ACC) Weapon System Trainer and Aircraft Sorties.** CRM skills should be discussed as part of all training event pre-briefs and debriefs. Positive and negative CRM skill application observations will be used to generate post flight discussion. CRM skills will be debriefed, critiqued and documented on all training aircraft and simulator sorties.

8.4. **Flight Instructor Training.** All flight and simulator instructors will complete instructor specific CRM training. This training will normally be accomplished as part of instructor upgrade program. Courseware must build upon the previous blocks of training, both to reacquaint candidates with CRM fundamentals and to maintain continuity of

terminology and techniques. MAJCOMs, FOAs and DRUs develop courseware related to instructing and evaluating key skills that apply to command and aircraft-specific missions. Personnel may conduct this training at operational units, flying training units, or a combination, as required. Training will include, but is not limited to, proper use of AF Form 4031.

8.4. **(ACC)** Flight training instructors are key to a successful CRM training program. CRM Instructor training courses are designed to prepare the instructor to recognize, analyze, and evaluate CRM principles and document CRM performance in the FTU and operational unit. Critical to the success of such a course is the continuous and daily involvement of the instructor/evaluator at the unit level. Instructors and evaluators will be provided with the tools and courseware instruction to allow them to integrate CRM principles into the unit's routine, from briefings to flight, from simulator training to safety meetings.

8.4.1. CRM instructors and evaluators must be highly proficient in all CRM skills, and be experts in the recognition, observation, and reinforcement of these skills as they are applied by aircrew members in a mission environment.

8.4.1. **(ACC) Flight Instructor Training Objectives.** CRM Instructor Training Course will provide proficiency in three specific areas:

8.4.1.1. **(Added-ACC)** Observing, assessing, and documenting CRM skills used by aircrew members in a mission environment.

8.4.1.2. **(Added-ACC)** Provide specific, meaningful, and standardized feedback to aircrews regarding their CRM skills and overall mission effectiveness.

8.4.1.3. **(Added-ACC)** Web/LAN-based training applications, including the DTOs.

8.4.2. CRM instructor or evaluator training will be included into instructor upgrade programs.

8.4.2. **(ACC) Instructor Training Requirements.** All instructors will complete CRM instructor training prior to assuming duties as an instructor. Aircrew members can take Instructor CRM training prior to entering upgrade training. Instructor CRM training is a one-time requirement, exclusive of a particular weapons system and must be included in all instructor upgrade syllabi as a 2 hour block of instruction. If contractor training is not available during the period of instructor upgrade, waivers can be requested IAW paragraph 2.1.1.2. of this supplement until the next available training date but no later than 1 year after upgrade. Aircrews taking the instructor CRM course will receive credit for CT training requirements.

8.4.2.1. **(Added-ACC) Stop Gap CRM Training.** Unit AOPs may provide CRM stop gap training (CRM continuation training courses only) in lieu of contracted services if the following guidelines have been met:

8.4.2.1.1. **(Added-ACC)** Contracted services are unavailable in a timely matter necessary to ensure compliance with this supplement.

8.4.2.1.2. **(Added-ACC)** Wing level AOPs must be a certified CRM facilitator IAW AFI 11-403, *Aerospace Physiological Training Program*, and must use the current contractor provided continuation training courseware appropriate for the MDS instructing. The AOP must complete a courseware review with an ACC

certified CRM Facilitator prior to teaching CRM. AOPs will monitor CRM classes for all assigned MDSs during contractor provided training to better familiarize themselves with current facilitation techniques, case studies, and classroom interaction. Once all requirements are achieved, each AOP will be approved by ACC SGPT in writing and appointment letter will be maintained in the AOP's instructor folder. A current list of ACC AOPs approved to teach will be forwarded to ACC TRSS/ACQ annually.

8.4.2.1.3. **(Added-ACC)** Stop gap training will be documented and reports submitted monthly to ACC TRSS/ACQ and ACC SGPT for consolidation with contractor provided services with a copy forwarded to ACC SGPT. Reports will include dates, unit of assignment and number of students trained.

8.4.2.1.4. **(Added-ACC)** AOPs are encouraged to work with local units to further integrate CRM skills into daily operations. Examples of ways that AOPs can help integrate CRM training into daily operations: attending flight briefings/debriefings; observation of mission planning; review and discussion of mission recording data; and presenting CRM training materials at air crew meetings, aircrew human performance briefs, safety meetings and other squadron functions.

8.5. **Facilitator Training.** Formal CRM academic curricula must be delivered by a trained CRM facilitator. Facilitator training will include training in running exercises, structured crew observation, and effective academic feedback.

9. **Data Disposition Schedule.** Data collected using AF Form 4031 must be retained for 6 months. After 6 months data may be destroyed. Disposition approval will be published in AFMAN 37-139 **Records Disposition Schedule**.

9.1. **(Added-ACC)** All aircrew members are evaluated on CRM during all periodic flight evaluations. Unit STAN/EVALs will consolidate CRM results and note any trends and forward to the unit CRM office. Units will forward trends to the ACC CRM Program Manager located in ACC TRSS as required.

9.2. **(Added-ACC)** Contract must identify all data that the contractor must deliver to the government, to include background data. Contractors will manage all data created for government use or legally controlled by the government IAW AFMAN 33-363. This includes electronic records along with any technical documentation that allows the government to use the data. Protection of government data will be IAW DoD 5400.7-R_AF SUP 1_ACC SUP 1, *DoD Freedom of Information Act Program*, Chapter 4.

9.3. **(Added-ACC)** Contract statement of work or performance work statements must include the following statement: "Contractors will manage all data created or used for the government IAW AFMAN 33-363 and public law". This includes all electronic records and technical documentation that will allow the government to use the data. Upon completion or termination of the contract, all material will be turned over to the government. Protection of government data will be in accordance with DoD 5400.7-R_AF SUP 1_ACC SUP 1, Chapter 4."

10. **Forms Prescribed:** AF Form 4031, **CRM Skills Criteria Training/Evaluation Form** will be used for CRM skills training and CRM evaluation as prescribed in the MAJCOM supplement.

The goal is to identify weak areas as trends to improve CRM training before incidents or accidents occur.

[TEST]

NOTE:

MAJCOMs, FOAs, and DRUs will determine the primary weapon system for all dual-qualified personnel and will ensure CRM training is oriented toward the primary weapon system.

ROBERT H. FOGLESONG, Lt General, USAF
DCS/Air & Space Operations

(ACC)

WILLIAM M. FRASER III, General, USAF
Commander

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 11-403, *Air Force Aerospace Physiological Training Program*

AFI 91-204, *Safety Investigations and Reports*

AFMAN 11-210, *Instrument Refresher Course(IRC) Program*

OPNAV Instruction 1542.7B

Abbreviations and Acronyms

ATD—Aircrew Training Device

CRM—Cockpit/Crew Resource Management

DRU—Direct Reporting Unit

FOA—Field Operating Agency

HATR—Hazardous Air Traffic Report

MAJCOM—Major Command

MOST—Mission Oriented Simulator Training

SA—Situational Awareness

Terms

Cockpit/Crew Resource Management (CRM)—The effective use of all available resources-- people, weapon systems, facilities, and equipment, and environment -- by individuals or crews to safely and efficiently accomplish an assigned mission or task. The term "CRM" will be used to refer to the training program, objectives, and key skills directed to this end. MAJCOMs may implement their programs as either "cockpit" or "crew" resource management based on their respective missions.

Communication—The act of sharing information with others to cause some kind of action: to direct, to inform, to question, or to persuade.

Crew—As used in this instruction, any collection of Air Force personnel who routinely work together to accomplish an Air Force mission. For example, an air task order-designated team of fighter pilots and airborne battle managers prosecuting an interdiction mission uses "crew" skills to maximize its effectiveness.

Crew Coordination—As used in this instruction the act of working with all the members of the crew to accomplish the tasks of the mission.

Decision Making—The ability to choose a course of action using logical and sound judgment based on available information.

Flight Discipline—The judgement and actions exercised by AF personnel to adhere to the spirit, intent, and written word of governing guidelines in the presence of temptation to do otherwise,

while executing the Air Force flying mission. It also includes the prioritization of tasks based on crew responsibilities to ensure safe mission accomplishment while demonstrating the highest degree of integrity in the performance of flight duties.

Flight Integrity—Utilizing all the members of a flying package to accomplish the mission at hand.

Mission Debrief—Reviewing and discussing mission accomplishment looking at what was achieved, what barriers were encountered and how the mission could be accomplished better next time.

Mission Oriented Simulator Training (MOST)—Training presented as a part of a CRM program in a realistic, operationally-based simulator environment in real time.

Mission Planning—Taking all of the information for a mission and developing short term, long term, and contingency plans to coordinate, allocate, and monitor crew/flight and aircraft resources. Effective planning leads to flight conduct that removes uncertainty, increases mission effectiveness and enhances safety.

Risk Management—Logic-based, common sense approach to making calculated decisions on human, material, and environmental factors before, during, and after Air Force mission activities and operations, i.e., on- and off-the-job.

Situational Awareness (SA)—In flying, this refers to a aircrew member's continuous perception of self and aircraft in relation to the dynamic environment of flight, threats, and mission, and the ability to forecast, then execute, tasks based upon that perception.

Skills Criteria—Defined skills used as the basis for operational training and evaluation. The characteristics of the skill are that they are easily identifiable and offer consistency in grading evaluation.

Task Management—The ability to alter a course of action based on new information, maintain constructive behavior under pressure, and adapt to internal and external environment changes.

Attachment 1 (ACC)**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

(ACC) AFMAN 33-363, *Management of Records*, 1 Mar 08

(ACC) DoD 5400.7-R_AF SUP 1_ACC SUP 1, *DoD Freedom of Information Act Program*, 11 Feb 03

(ACC) AFI 91-204, *Safety Investigations and Reports*, 24 Sep 08

Abbreviations and Acronyms

ACC)ARMS—Aviation Resource Management System

ACC)AFSC—Air Force Safety Center

ACC)AOP—Aerospace and Operational Physiologist

ACC)CT—Continuation Training

ACC)DTO—Daily Training Objective

ACC)FTU—Formal Training Unit

ACC)LAN—Local Area Network

ACC)MDS—Mission Design Series

ACC)OG/CC—Operations Group Commander

ACC)QAP—Quality Assurance Personnel

ACC)SEB—Standardization and Evaluation Board

ACC)STAN/EVAL—Standardization and Evaluation

ACC)UPT/UNT—Undergraduate Pilot Training/Undergraduate Navigator Training

Attachment 2**IC 2001-1 TO AFI 11-290, COCKPIT/ CREW RESOURCE MANAGEMENT TRAINING PROGRAM****11 APRIL 2001*****SUMMARY OF REVISIONS***

This interim change (IC) 2001-1 replaces the term *discipline* with *flight discipline* in paragraph **6.1.4**. This change also provides a definition for *flight discipline* in the Terms section in **Attachment 1**.

6.1.4. Risk Management/Decision Making. (Decision Making) Includes risk assessment, the risk management process, tools, breakdowns in judgment and *flight discipline*, problem-solving, evaluation of hazards, and control measures.

Attachment 1

Terms shall have the following definition added:

Flight Discipline -- The judgement and actions exercised by AF personnel to adhere to the spirit, intent, and written word of governing guidelines in the presence of temptation to do otherwise, while executing the Air Force flying mission. It also includes the prioritization of tasks based on crew responsibilities to ensure safe mission accomplishment while demonstrating the highest degree of integrity in the performance of flight duties.